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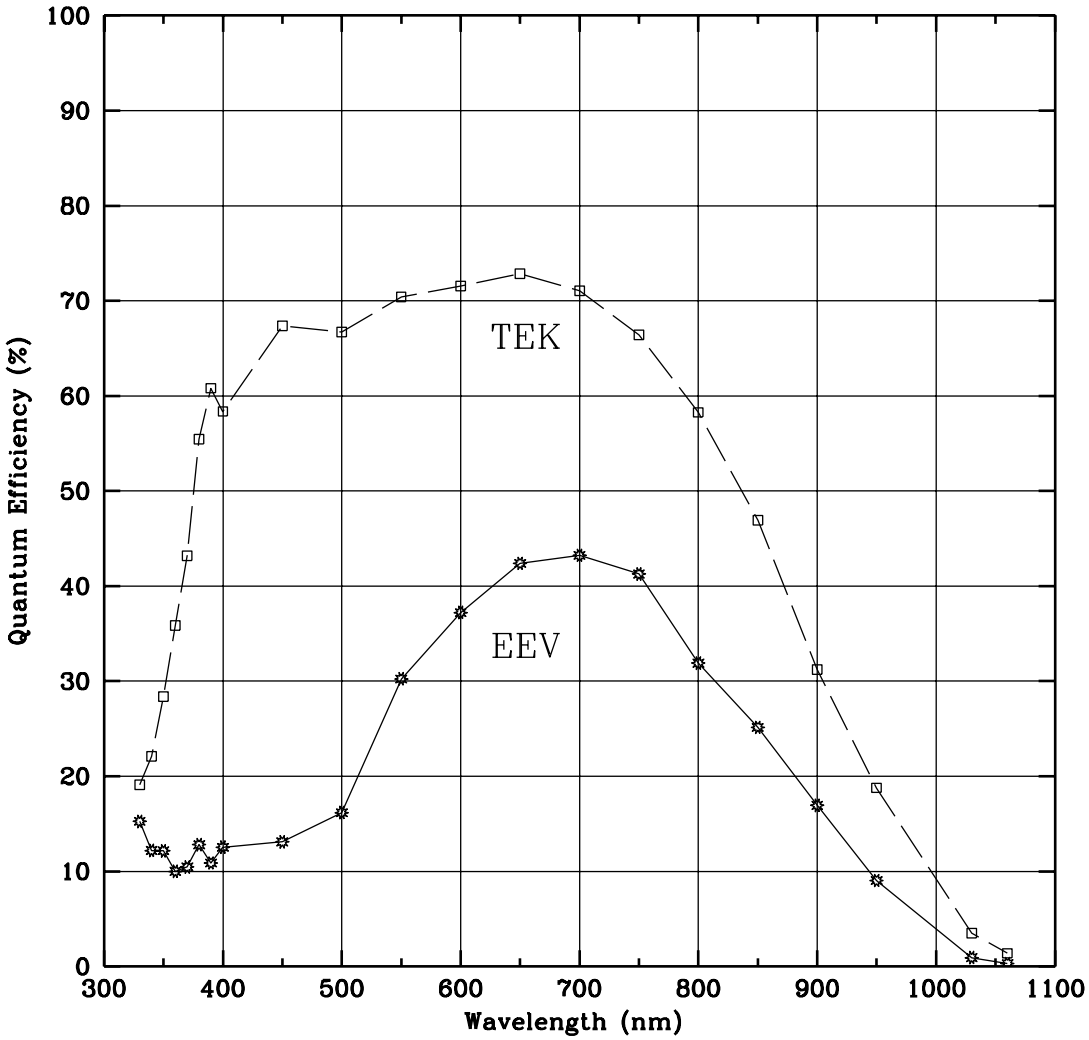

Figure 6: Quantum efficiency of WHT Imaging CCDs
[Quantum Efficiency of CCDs available for WHT imaging. The top, dashed curve corresponds to the TEK2 chip, while the lower, solid curve corresponds to the EEV chip.]

Table 15: Summary of filters for CCD imaging

Type	Central wavelength (nm)	Bandpass (nm)	Peak transmission (per cent)	Thickness (mm)	#	Comments
Kitt Peak broad-band glass/interference filters:						
B	440	110	80	3	3	
V	547	94	80	3	2	
V	547*	94	80	5	1	
R	646*	126	87	3	3	
I	809*	184	85	3	3	
U-band filters:						
U	360*	62	60	7	1	25mm square
U	360*	62	60	7	1	38mm square
U	360*	62	60	6	4	50mm square 1 damaged
U	360	62	~ 30	?	1	
Glass broad-band filters (Harris set):						
B	436*	107	67	4	3	
V	545*	105	88	4	3	
R	659*	149	84	4	3	
Glass broad-band filters (RGO set):						
B	435	106	52	7.3	2	
V	535	94	70	7.2	2	
R	645	150	81	7.2	2	
I	∼840	∼200	94	7.0	2	
Z	∼930	∼150	80	7.1	3	
Emission line interference filters:						
[OII]	373.1*	5.2	43	9	1	
[SII]	407.5	3.0	33	9	1	
HeII	469.1*	4.9	61	9	1	
Hβ	486.6*	5.1	60	9	1	
[OIII]	501.2*	5.0	61	9	1	
HeII	588.1	4.6	62	9	1	
[OI]	630.6*	5.3	70	9	1	Red leak
Hα	655.6*	6.0	70	8.2	1	Ghost
[NII]	659.0*	1.6	60	9	1	
[SII]	673.0	4.8	68	9	1	
[OII]	733.1	4.6	67	9	1	
[SIII]	907.5*	5.4	74	9	1	
[SIII]	953.9*	5.2	74	9	1	
HeII	1083.7*	11.4	52	9	1	

Table 16: RGO Glass Filters
RGO Glass Filters

Filter	Materials
U	1mm UG1 + 5mm $CuSO_4$ (Solid)
B	1mm GG385 +1mm BG12 + 1mm BG18 + 2mm KG3 + 2mm WG280
V	2mm GG495 + 2mm BG 18 + 2mm KG3 +1mm WG280
R	2mm KG3 + 2mm OG570 + 3mm WG280
I	3mm RG9 + 4mm WG280
Z	4mm RG850 + 3mm WG280

The WG280 is used to give uniform thickness of all filters (except U). For Z, and to some extent I, the longwave cutoff is determined by the CCD response.

B.3 Broadband filters – the Harris set (BVR)

To replace a deteriorating set of Kitt Peak filters, 3 sets of large (125 mm) BVR glass colour filters were purchased in 1990 for CCD imaging.

The filters consist of cemented stacks of Schott glass, following the recipe below (see also NOAO newsletter 11,12 and 14:

B: 2mm BG12 + 2mm BG39
V: 2mm OG570 + 2mm KG3
R: 1mm BG12 + 2mm BG39 + 1mm GG385

It is thought that

- When the filter response curves are convolved with a typical CCD response, the glass filters provide a closer match to the standard Johnson B and V and the Kron-Cousins R bandpass.
- The transmission of the glass filters is comparable to that of the interference filters, and does not deteriorate with time.
- Glass filters are significantly cheaper than interference filters of the same size.

Harris filters are very often used at La Palma, just like Kitt Peak filters, probably because both are on the Kron-Cousins system. Note that the

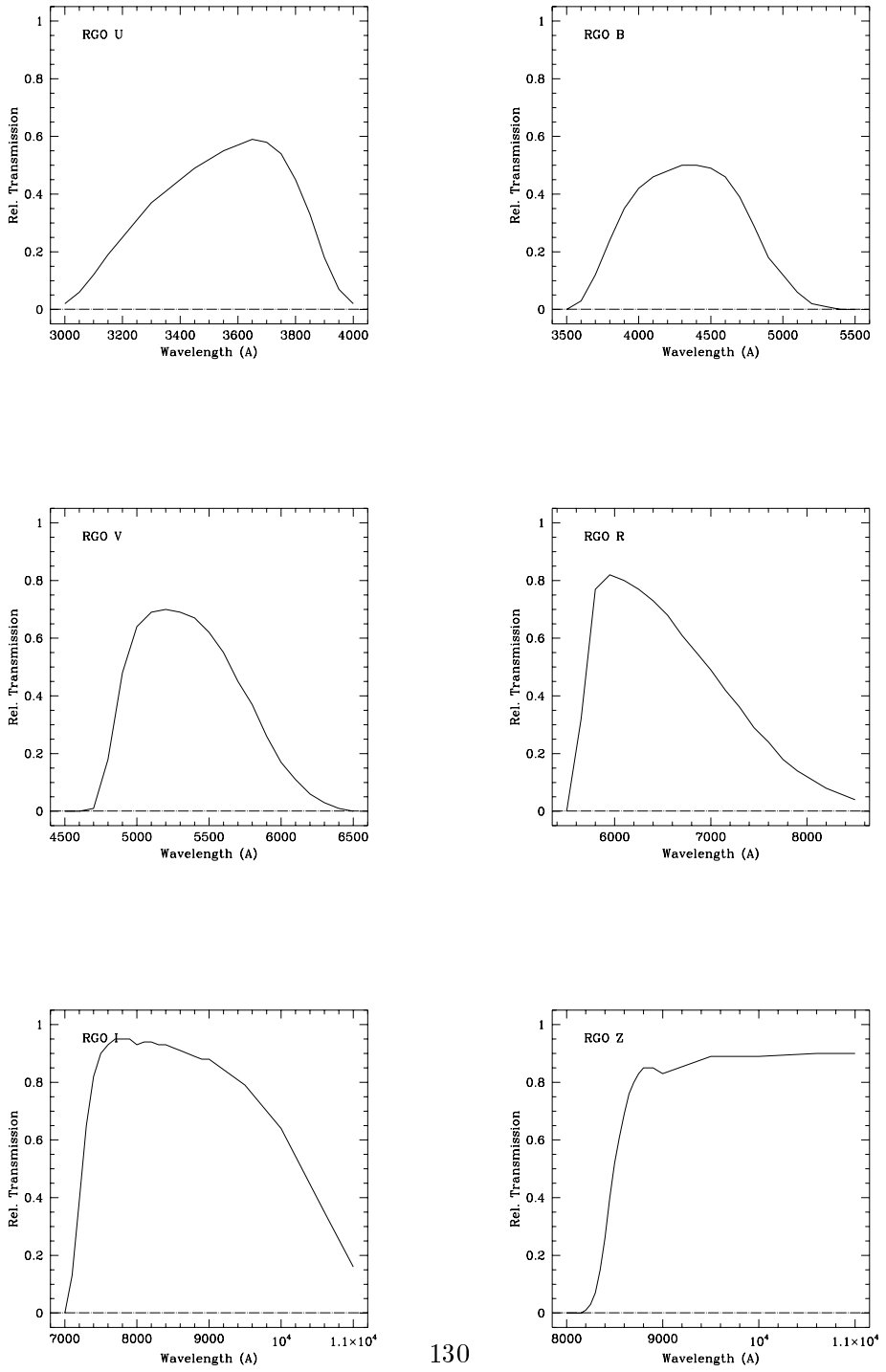

Figure 15: RGO Glass filters